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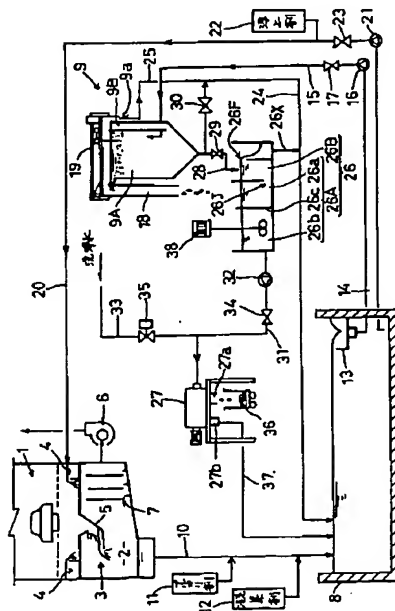
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(54) 【発明の名称】 塗装設備の塗料ミスト除去装置

(57) 【要約】

【目的】 最終処理部に供給する塗料スラッジ含有液の含水率を非常に小さいものにする。

【構成】 塗料ミストを含む塗装ブース1内の排気とミスト捕捉用液とをその排気中の塗料ミストがミスト捕捉用液に捕捉されるように接触させて排気空間に排出する洗浄手段を設け、その洗浄手段からの液を受け入れて液中の塗料スラッジを浮上させるための第1分離槽8と、その第1分離槽8から浮上塗料スラッジ含有液を取り出す第1取出し手段と、その第1取出し手段からの取出し液を受け入れて液中の塗料スラッジを浮上させるための第2分離槽9と、その第2分離槽9から浮上塗料スラッジを取り出す第2取出し手段とを設け、前記第1分離槽8で分離した液を前記ミスト捕捉用液として洗浄手段に供給する第1液供給手段と、第2分離槽9で分離した液を第1分離槽8に戻す液戻し手段とを設けてある塗装設備の塗料ミスト除去装置において、前記第2取出し手段により第2分離槽9から取り出された塗料スラッジを脱水処理して固形分と液分とに分離するための脱水手段を設ける。



【特許請求の範囲】

【請求項1】 塗料ミストを含む塗装ブース（1）内の排気とミスト捕捉用液とをその排気中の塗料ミストがミスト捕捉用液に捕捉されるように接触させて排気空間に排出する洗浄手段を設け、その洗浄手段からの液を受け入れて液中の塗料スラッジを浮上させるための第1分離槽（8）と、その第1分離槽（8）から浮上塗料スラッジ含有液を取り出す第1取出し手段と、その第1取出し手段からの取出し液を受け入れて液中の塗料スラッジを浮上させるための第2分離槽（9）と、その第2分離槽（9）から浮上塗料スラッジを取り出す第2取出し手段とを設け、前記第1分離槽（8）で分離した液を前記ミスト捕捉用液として洗浄手段に供給する第1液供給手段と、第2分離槽（9）で分離した液を第1分離槽（8）に戻す液戻し手段とを設けてある塗装設備の塗料ミスト除去装置において、前記第2取出し手段により第2分離槽（9）から取り出された塗料スラッジを脱水処理して固形分と液分とに分離するための脱水手段を設けてある塗装設備の塗料ミスト除去装置。

【請求項2】 前記脱水手段を構成するに、第2取出し手段により取り出された塗料スラッジを受け入れるスラッジ貯留槽部（26A）と液貯留槽部（26B）とに内部が仕切られたスラッジ貯留槽（26）を設け、スラッジ貯留槽部（26A）内と液貯留槽部（26B）内との底部同士を連通させる連通口（26J）を形成し、前記液貯留槽部（26B）内から液をオーバーフローにより排出させるオーバーフロー口（26F）を形成し、第2分離槽（9）で分離した液の一部をスラッジ貯留槽（26）に供給する液供給手段を設け、スラッジ貯留槽部（26A）内の塗料スラッジ含有液を取り出す取出し手段と、それにより取り出された塗料スラッジ含有液を固形分と液分とに分離する脱水機（27）を設けてある請求項1記載の塗装設備の塗料ミスト除去装置。

【発明の詳細な説明】

【0001】

【産業上の利用分野】本発明は、塗料ミストを含む塗装ブース内の排気とミスト捕捉用液とをその排気中の塗料ミストがミスト捕捉用液に捕捉されるように接触させて排気空間に排出する洗浄手段を設け、その洗浄手段からの液を受け入れて液中の塗料スラッジを浮上させるための第1分離槽と、その第1分離槽から浮上塗料スラッジ含有液を取り出す第1取出し手段と、その第1取出し手段からの取出し液を受け入れて液中の塗料スラッジを浮上させるための第2分離槽と、その第2分離槽から浮上塗料スラッジを取り出す第2取出し手段とを設け、前記第1分離槽で分離した液を前記ミスト捕捉用液として洗浄手段に供給する第1液供給手段と、第2分離槽で分離した液を第1分離槽に戻す液戻し手段とを設けてある塗装設備の塗料ミスト除去装置に関する。

【0002】

【従来の技術】この種の塗装設備の塗料ミスト除去装置によれば、第1分離槽を設けることにより、洗浄手段からの塗料ミスト補足液中の塗料ミストをスラッジ化して除去し、その塗料スラッジが除去された液を洗浄手段に供給するようにしてあるから、洗浄手段にミスト捕捉用液として供給する塗料ミスト含有液の塗料含有量を少なくできて、液を循環使用しながらも洗浄手段での排気の洗浄、つまり、排気からの塗料ミストの捕捉を効率良く確実にできる利点がある。

【0003】そのような利点を有する塗装設備の塗料ミスト除去装置として従来では、第2分離槽で浮上分離されて第2取出し手段で取り出された塗料スラッジ含有液を、無害化して破棄処理したり、或いは、焼却処理したりする最終処理部に送るものとしていた。つまり、従来では、第2分離槽で浮上分離されて取り出された塗料スラッジ含有液を破棄処理や焼却処理などの最終処理の処理対象としていた。

【0004】

【発明が解決しようとする課題】しかし、上記従来の技術によるときは、第1分離槽と第2分離槽とを用いて2段階に塗料ミストを濃縮分離するため、例えば一つの分離槽を設けて塗料ミストを濃縮分離する場合に比較して、第2分離槽から取り出した塗料スラッジ含有液の含水率を低くできるものの、最終処理にとって好適な含水率まで低下させることができず、その結果、最終処理の処理対象となる塗料スラッジ含有液が未だ嵩高くて重いものになって、塗料スラッジの最終処理部への供給を大掛かりでコストの掛かるものにしており、特に焼却処理する場合には焼却用燃料の消費量が多くて焼却処理のランニングコストを高いものにしていた。

【0005】本発明の目的は、最終処理部に供給する塗料スラッジ含有液の含水率を非常に小さいものにしようとする点にある。

【課題を解決するための手段】本発明の第1発明による塗装設備の塗料ミスト除去装置の特徴は、前記第2取出し手段により第2分離槽から取り出された塗料スラッジを脱水処理して固形分と液分とに分離するための脱水手段を設けてある点にある。

【0006】本発明の第2発明による塗装設備の塗料ミスト除去装置の特徴は、上記第1発明において、前記脱水手段を構成するに、第2取出し手段により取り出された塗料スラッジを受け入れるスラッジ貯留槽部と液貯留槽部とに内部が仕切られたスラッジ貯留槽を設け、スラッジ貯留槽部内と液貯留槽部内との底部同士を連通させる連通口を形成し、前記液貯留槽部内から液をオーバーフローにより排出させるオーバーフロー口を形成し、第2分離槽で分離した液の一部をスラッジ貯留槽に供給する液供給手段を設け、スラッジ貯留槽部内の塗料スラッジ含有液を取り出す取出し手段と、それにより取り出された塗料スラッジ含有液を固形分と液分とに分離する脱水

機を設けてある点にある。

【0007】

【作用】第1発明によれば、脱水手段を設けることにより、第1分離槽及び第2分離槽を用いて2段分離した塗料スラッジ含有液を脱水処理して固形分と液分とに分離するように構成してあるから、その脱水手段からの塗料スラッジの固形分を、破棄や焼却などの最終処理部に供給するものとするることにより、最終処理部に供給する処理対象を含水率の非常に低いものにできる。

【0008】第2発明によれば、第2分離槽から取り出した塗料スラッジ含有液を直接に脱水機に供給してそのまま脱水処理するのではなく、底部同士が連通口を介して連通するスラッジ貯留部と液貯留部とに仕切られるとともに、オーバーフロー口を有するスラッジ貯留槽を設けて、第2分離槽から取り出した塗料スラッジ含有液をそのスラッジ貯留槽を経て脱水機に供給するように構成してあって、スラッジ貯留槽への塗料スラッジ含有液の供給と、そのスラッジ貯留槽からの液のオーバーフロー排出とを行うから、スラッジ貯留槽への塗料スラッジ含有液の供給量を、スラッジ貯留槽から脱水機への塗料スラッジ含有液の供給量よりも多く設定しておくことにより、特別な供給量の制御を行うことなく、スラッジ貯留槽内の塗料スラッジ含有液の量（レベル）を安定させて、脱水機への塗料スラッジ含有液の供給を過不足なく安定させることができる。

【0009】

【発明の効果】従って本発明によれば、破棄や焼却などの最終処理部に処理対象として供給する塗料スラッジ含有物を、低含水率で嵩が低く軽量なものにできて、最終処理部への塗料スラッジ含有物への供給を装置面及びコスト面で有利に行え、特に焼却処理する場合にはその焼却処理コストを低減することができるように、塗装ブース内排気から塗料ミストを除去できるようになった。

【0010】特に請求項2に記載のようにすれば、複雑な制御を要することなく脱水機への塗料スラッジ含有液の供給を安定させ得ることで、脱水機への供給ポンプを空転させたり、或いは、スラッジ貯留槽から液や塗料スラッジを不用意に溢れさせたりするといったトラブルを招来することなく、所期の塗料スラッジ含有液の脱水を安全に行える。

【0011】

【実施例】塗装設備は、図1に示すように、被塗物を移動させながら塗装するための塗装ブース1と、塗料ミストを含むその塗装ブース1内の排気中から塗料ミストを除去して排出する塗料ミスト除去装置とを有する。

【0012】前記塗料ミスト除去装置は、洗浄手段と排気処理手段と分離手段と給液手段と脱水手段とを設けて構成されている。

【0013】前記洗浄手段は、前記塗装ブース1内の排気と、水を主体とするミスト捕捉用液をその排気中の塗

料ミストがミスト捕捉用液に捕捉されるように接触させて、塗装ブース1の下方に設置した排気空間2に排出する手段である。具体的には、ミスト捕捉用液を液滴化（水滴化）させて排気と接触させながら排気空間2に排出する洗浄器3と、塗装ブース1の幅方向両端に被塗物移動方向に沿った姿勢で設けた液供給樋4と、その液供給樋4から溢れたミスト捕捉用液を前記洗浄器3に流下案内する流下板5とからなり、液供給樋4から溢れたミスト捕捉用液は、流下板5の上面を覆う膜状となって流下し、その結果、降下してきた塗料ミストは、流下板5の上面に付着することなく膜状の流下ミスト捕捉用液に捕捉されるように構成されている。従って、上記洗浄手段の存在により、塗料ミストを除去された排気及び塗料ミストを含有した塗料ミスト捕捉液が塗装ブース1内から排気空間2に排出されることになる。

【0014】前記排気処理手段は、前記排気空間2内の処理排気を外部に排出するための排気ファン6と、排気中の液分を除去するエリミネーター7とを設けて構成されている。

【0015】前記分離手段は、前記塗装ブース1から洗浄手段を通して排出されてくる塗料ミスト含有の塗料ミスト捕捉用液を受け入れて液中の塗料スラッジを浮上分離させるための第1分離槽8と、その第1分離槽8から浮上塗料スラッジ含有液を取り出す第1取出し手段と、その第1取出し手段からの取出し液を受け入れて液中の塗料スラッジを浮上させ分離するための第2分離槽9と、その第2分離槽9から浮上塗料スラッジを取り出す第2取出し手段とを設けて構成されている。

【0016】前記第1分離槽8への流下式の給液路10には、塗料ミスト捕捉用液をアルカリ性に調整するためのアルカリ剤を塗料ミスト捕捉用液に注入するアルカリ剤注入部11と、塗料ミストをフロック状に凝集させてスラッジ化を促進するための高分子ポリマーなどの凝集剤を塗料ミスト捕捉用液に注入する凝集剤注入部12とを有する。

【0017】前記第1取出し手段は、第1分離槽8内の浮上した塗料スラッジを上層液とともに流入させて集めるための集積ビット13を設け、その集積ビット13の底部からスラッジ取出し路14を介して液を排出することで集積ビットへの流入液に旋回力を付与して渦流を発生させることにより集積ビット13内の浮上塗料スラッジを液とともに集積ビット13外に取り出してスラッジ供給路15を介して第2分離槽9に供給するスラッジポンプ16を設けて構成されている。17は、塗料スラッジ含有液供給を停止するためのバルブである。

【0018】前記第2分離槽9は、スラッジ用槽部9Aと液用槽部9Bとに仕切られており、スラッジ用槽部9Aと液用槽部9Bとはスラッジ用槽部9A内の塗料スラッジが液用槽部9Bに移行しないように下部において連通されており、液用槽部9Bから液をオーバーフロー排

出させて液面の以上上昇を防止するためのオーバーフロー式排出口9aを有する。

【0019】前記第2取出し手段は、第2分離槽9のうちスラッジ用槽部9A内の浮上した塗料スラッジを上層液とともにスラッジ落下排出口18に掻きだす掻きだし装置19を設けて構成されている。

【0020】前記給液手段は、第1分離槽8で分離した液を塗料ミスト捕捉用液として前記洗浄手段の液供給樋4に供給する第1液供給手段と、第2分離槽9で分離した液を第1分離槽8に戻す液戻し手段とを設けて構成されている。

【0021】前記第1液供給手段は、第1分離槽8の底部から液を取り出して液供給樋4に案内する液供給路20に給液用の循環ポンプ21を設けて構成されており、液供給路20には、塗料ミストを浮上させる浮上剤（キラー剤）を液に供給する浮上剤供給部22が設けられている。23は液供給を停止するためのバルブである。

【0022】前記液戻し手段は、第2分離槽9内の分離液を底部から取り出して第1分離槽8内に流下させる主流下路24と、第2分離槽9のオーバーフロー式排出口9aからの液を主流下路24に流下合流させるオーバーフロー流下路25とを設けて構成されている。

【0023】前記脱水手段は、前記第2取出し手段により第2分離槽9から取り出された塗料スラッジ含有液を固形分と液分とに分離する手段であって、スラッジ落下排出口18からの塗料スラッジ含有液を受け入れて貯留するスラッジ貯留槽26と、前記第2分離槽9内からスラッジ貯留槽26に分離液を流下供給する液供給手段と、スラッジ貯留槽26から塗料スラッジ含有液を取り出す取出し手段と、それにより取り出された塗料スラッジ含有液を固形分と液分とに分離する脱水機27とを設けて構成されている。

【0024】前記スラッジ貯留槽26は、第2分離槽9からの塗料スラッジ含有液を受け入れるスラッジ貯留槽部26Aと、液貯留槽部26Bとに内部を仕切られている。そして、スラッジ貯留槽部26A内と液貯留槽部26B内との底部同士を連通させる連通口26Jと、液貯留槽部26B内から液をオーバーフローにより排出させて排出流下路26Xを介して前記主流下路24に流下合流させるオーバーフロー口26Fとが形成されている。従って、スラッジ貯留槽部26Aと液貯留槽部26Bとが底部同士で連通口26Jを介して連通することにより、スラッジ貯留槽部26A内の浮上塗料スラッジの液貯留槽部26B内への移行を阻止した状態でスラッジ貯留槽部26A内の液面と液貯留槽部26B内の液面とが同一レベルに維持され、オーバーフロー口26Fを介して液のみが排出することにより、スラッジ貯留槽26内、つまり、スラッジ貯留槽部26A内及び液貯留槽部26B内の液面がそのオーバーフロー口26Fのレベル以下に維持されるとともに、液中の塗料スラッジの濃度

を高くするようになっている。

【0025】前記液供給手段は、前記液戻し手段の主流下路24から分岐して液貯留槽部26Bに液を流下供給する流下供給路28を設け、その流下供給路28及び主流下路24にそれらへの液の分流比を調整するためのバルブ29、30を設けることで構成されている。

【0026】前記取出し手段は、スラッジ貯留槽部26Aから脱水機27に塗料スラッジ含有液を供給するためのスラッジ含有液供給路31に移送用の供給ポンプ32を介装して構成されており、スラッジ含有液供給路31には、脱水機27にそれを洗浄するための洗浄水を供給するための洗浄水供給路33が接続されている。つまり、洗浄水の供給を停止した状態で供給ポンプ32を動作させることにより、塗料スラッジ含有液を脱水機27に供給して脱水処理し、供給ポンプ32を停止させて脱水機27に洗浄水を供給することにより脱水機27を洗浄して脱水性能を維持するように構成されている。34は、塗料スラッジ含有液の供給停止用のバルブであり、35は、洗浄水供給停止用のバルブである。

【0027】前記脱水機27は、遠心式のものであって、分離した固形分を可搬型のスラッジ容器36に落下供給するスラッジ排出口27aと液分を排出する排液口27bとを有し、排液口27bには、排液を第1分離槽8に流下式に戻す流下戻し路37が接続されている。

【0028】前記スラッジ貯留槽部26Aは、第2分離槽9からの塗料スラッジ含有液を受け入れる受入部26aと、スラッジを貯留する貯留部26bとに仕切られており、その仕切り26cを、設定以上の大きさのものの通過を阻止する濾過スクリーンとすることにより、受入部26a内の塗料スラッジのうち脱水機27への供給に適した大きさ以下のもののみを貯留部26b内に移行させ、過剰に大きく固まった塗料スラッジや塵芥の貯留部26bへの移行を防止するようになっている。貯留部26bには、塗料スラッジが相互に結合して大きな塊となることを防止するための攪拌機38が設置されている。つまり、取出し手段の供給ポンプ32による塗料スラッジ含有液の移送をポンプトラブル等の障害を招来することなく行わせるようになっている。

【0029】前記塗料ミスト除去装置の具体仕様の一例を示すと、洗浄手段での塗料ミスト捕捉量を0.3kg/min、第1分離槽8での浮上分離効率を40%、第2分離槽9での浮上分離効率を80%、第1液供給手段の供給量を20m³/min、第1取出し手段のスラッジ供給量を1000l/min、主流下路24での流下量を980l/min、流下供給路28によるスラッジ貯留槽26への液供給量を20l/min、スラッジ貯留槽26からのオーバーフローによる排液量を10l/min、脱水機27への供給量を10l/min、脱水機27から第1分離槽8への液戻り量を10l/minにそれぞれ設定したとすると、第1分離槽8内での塗料

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ミスト濃度、第1分離槽8から洗浄手段に供給される液の塗料ミスト濃度、洗浄後の塗料ミスト濃度、第2分離槽9に供給される液の塗料ミスト濃度、脱水機27に供給される液の塗料ミスト濃度、第2分離槽9及びスラッジ貯留槽26から第1分離槽8に戻される液の塗料ミスト濃度は、それぞれ、45ppm、28ppm、43ppm、375ppm、30000ppm、76ppmとなる。

【0030】〔別実施例〕上記実施例では、脱水機27として遠心式のものを示したが、脱水機27の形式は遠心式以外のものであっても良い。

【0031】上記実施例では、脱水手段として、スラッジ貯留槽26を有するものを示したが、脱水手段は、第2分離槽9から脱水機27に直接に塗料スラッジ含有液を供給して脱水するものであっても良い。

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【0032】尚、特許請求の範囲の項に図面との対照を便利にするために符号を記すが、該記入により本発明は添付図面の構成に限定されるものではない。

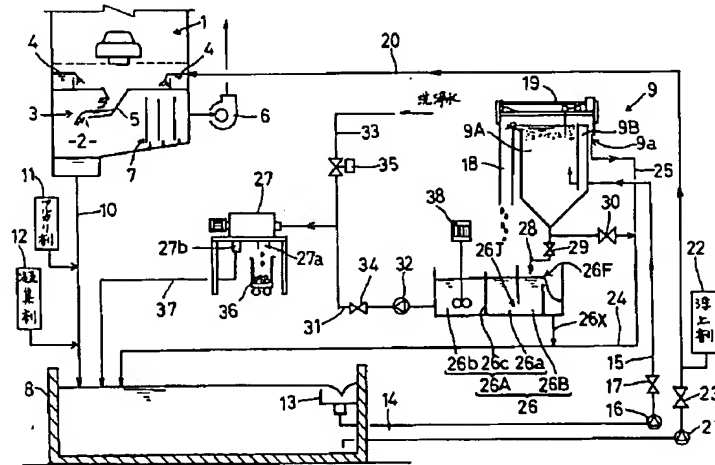
【図面の簡単な説明】

【図1】概略構成図

【符号の説明】

- | | |
|-----|----------|
| 1 | 塗装ブース |
| 8 | 第1分離槽 |
| 9 | 第2分離槽 |
| 26A | スラッジ貯留槽部 |
| 26B | 液貯留槽部 |
| 26 | スラッジ貯留槽 |
| 26J | 連通口 |
| 26F | オーバーフロー口 |
| 27 | 脱水機 |

【図1】



PATENT ABSTRACTS OF JAPAN

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(71)Applicant : TAIKISHA LTD

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(72)Inventor : WATANABE MAKOTO

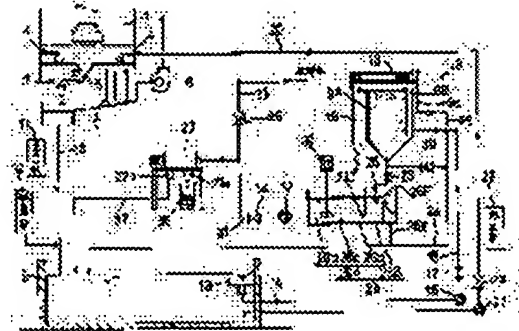
(54) COATING MIST REMOVING DEVICE OF COATING EQUIPMENT

(57)Abstract:

PURPOSE: To extremely reduce the water content of the coating sludge-containing soln. supplied to a final treatment part by installing a dehydration means subjecting coating sludge taken out of a second separation tank by a second take-out means to dehydration treatment to separate the same into a solid component and a liquid component.

CONSTITUTION: A dehydration means has function separating the coating sludge- containing soln. taken out of a second separation tank 9 by a second take-out means into a solid component and a liquid component.

The dehydration means is provided with a sludge storage tank 26 receiving the coating sludge-containing soln. from a sludge falling discharge passage 18 to store the same, a liquid supply means allowing a separated liquid to flow down from the second separation tank 9 to supply the same to the sludge storage tank 26, a take-out means taking out the coating sludge-containing soln. from the sludge storage tank 26 and a dehydrator 27 separating the taken-out coating sludge-containing soln. into a solid component and a liquid component. Since the solid component of the coating sludge from the dehydration means is supplied to a final disposal or incineration treatment part, the water content of the object to be treated supplied to the final treatment part can be lowered.



LEGAL STATUS

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CLAIMS

[Claim(s)]

[Claim 1] A washing means to contact the exhaust air in a paint booth (1) including coating Myst and the liquid for the Myst prehension so that coating Myst under the exhaust air may be caught by the liquid for the Myst prehension, and to discharge them to exhaust air space is established. The 1st separation tub for receiving the liquid from the washing means and surfacing the coating sludge in liquid (8), The 1st drawing means which takes out surfacing coating sludge content liquid from the 1st separation tub (8), The 2nd separation tub for receiving the drawing liquid from the 1st drawing means, and surfacing the coating sludge in liquid (9), A 1st liquid supply means to establish the 2nd drawing means which takes out a surfacing coating sludge from the 2nd separation tub (9), and to supply a washing means by using as said liquid for the Myst prehension the liquid separated by said 1st separation tub (8), In the coating Myst stripper of a paint facility which has established a liquid return means to return the liquid separated by the 2nd separation tub (9) to the 1st separation tub (8) The coating Myst stripper of a paint facility which has established the dehydration means for carrying out dehydration processing of the coating sludge taken out from the 2nd separation tub (9) by said 2nd drawing means, and separating into a part for solid content and liquid.

[Claim 2] The sludge depot (26) with which the interior was divided into the sludge depot section (26A) which accepts the coating sludge taken out by constituting said dehydration means with the 2nd drawing means, and the liquid depot section (26B) is prepared. Free passage opening (26J) which makes partes basilaris ossis occipitalis with the inside of the sludge depot section (26A) and the liquid depot section (26B) open for free passage is formed. Overflow opening (26F) which makes liquid discharge by overflow from the inside of said liquid depot section (26B) is formed. The drawing means which establishes a liquid supply means to supply some liquid separated by the 2nd separation tub (9) to a sludge depot (26), and takes out the coating sludge content liquid in the sludge depot section (26A), The coating Myst stripper of a paint facility according to claim 1 which has formed the dehydrator (27) which divides into a part for solid content and liquid the coating sludge content liquid taken out by that cause.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention establishes a washing means to contact the exhaust air in a paint booth including coating Myst, and the liquid for the Myst prehension so that coating Myst under the exhaust air may be caught by the liquid for the Myst prehension, and to discharge them to exhaust air space. The 1st separation tub for receiving the liquid from the washing means and surfacing the coating sludge in liquid, The 1st drawing means which takes out surfacing coating sludge content liquid from the 1st separation tub, The 2nd separation tub for receiving the drawing liquid from the 1st drawing means, and surfacing the coating sludge in liquid, A 1st liquid supply means to establish the 2nd drawing means which takes out a surfacing coating sludge from the 2nd separation tub, and to supply a washing means by using as said liquid for the Myst prehension the liquid separated by said 1st separation tub, It is related with the coating Myst stripper of a paint facility which has established a liquid return means to return the liquid separated by the 2nd separation tub to the 1st separation tub.

[0002]

[Description of the Prior Art] According to the coating Myst stripper of a paint facility of this kind, by preparing the 1st separation tub Coating Myst in the coating Myst supplement liquid from a washing means is sludged and removed. Since the liquid from which the coating sludge was removed is supplied to the washing means Though the coating content of the coating Myst content liquid supplied as liquid for the Myst prehension can be lessened and the cyclic use of waste water of the liquid is carried out to a washing means, there is an advantage which can ensure efficiently washing of exhaust air with a washing means, i.e., prehension of coating Myst from exhaust air.

[0003] By the former, the coating sludge content liquid which floatation was carried out by the 2nd separation tub, and was taken out with the 2nd drawing means should be sent to the final-treatment section which defangs, and carries out cancellation processing, or carries out incineration processing as a coating Myst stripper of a paint facility which has such an advantage. That is, in the former, the coating sludge content liquid which floatation was carried out and was taken out by the 2nd separation tub was made into the processing object of final treatments, such as cancellation processing and incineration processing.

[0004]

[Problem(s) to be Solved by the Invention] However, when based on the above-mentioned Prior art, in order to carry out concentration separation of coating Myst in two steps using the 1st separation tub and the 2nd separation tub, For example, when preparing one separation tub and carrying out concentration separation of coating Myst, it compares. Although water content of the coating sludge content liquid taken out from the 2nd separation tub can be made low It cannot be made to fall to the suitable water content for a final treatment. The result, It will become it is high and heavy. the coating sludge content liquid used as the processing object of a final treatment -- yet -- ** -- When it was large-scale, supply in the final-treatment section of a coating sludge was made into what cost requires and especially incineration processing was carried out, there was much consumption of the fuel for incineration and it

made the running cost of incineration processing high.

[0005] The purpose of this invention is that it is going to make very small water content of the coating sludge content liquid supplied to the final-treatment section.

[Means for Solving the Problem] The description of the coating Myst stripper of the paint facility by the 1st invention of this invention is in the point of having established the dehydration means for carrying out dehydration processing of the coating sludge taken out from the 2nd separation tub by said 2nd drawing means, and separating into a part for solid content and liquid.

[0006] The description of the coating Myst stripper of the paint facility by the 2nd invention of this invention The sludge depot with which the interior was divided into the sludge depot section which accepts the coating sludge taken out by constituting said dehydration means with the 2nd drawing means in the 1st invention of the above, and the liquid depot section is prepared. Free passage opening which makes the partes basilaris ossis occipitalis of sludge depot circles and liquid depot circles open for free passage is formed. Overflow opening which makes liquid discharge by overflow from said liquid depot circles is formed. It is in the point of establishing a liquid supply means to supply some liquid separated by the 2nd separation tub to a sludge depot, and having formed the drawing means which takes out the coating sludge content liquid of sludge depot circles, and the dehydrator which divides into a part for solid content and liquid the coating sludge content liquid taken out by that cause.

[0007]

[Function] Since according to the 1st invention it constitutes so that dehydration processing of the coating sludge content liquid separated two steps by establishing a dehydration means using the 1st separation tub and the 2nd separation tub may be carried out and it may separate into a part for solid content and liquid The processing object which supplies the solid content of the coating sludge from the dehydration means to the final-treatment section by supplying the final-treatment sections, such as cancellation and incineration, is made to the very low thing of water content.

[0008] According to the 2nd invention, supply directly the coating sludge content liquid taken out from the 2nd separation tub to a dehydrator, and it does not carry out dewater treatment as it is. While being divided into the sludge reservoir section and the liquid reservoir section which partes basilaris ossis occipitalis open for free passage through free passage opening The sludge depot which has overflow opening is prepared, and it constitutes so that the coating sludge content liquid taken out from the 2nd separation tub may be supplied to a dehydrator through the sludge depot. Supply of the coating sludge content liquid to a sludge depot, Since overflow discharge of the liquid from the sludge depot is performed, the amount of supply of the coating sludge content liquid to a sludge depot by setting up more mostly than the amount of supply of the coating sludge content liquid from a sludge depot to a dehydrator Without controlling the special amount of supply, the amount (level) of the coating sludge content liquid in a sludge depot can be stabilized, and supply of the coating sludge content liquid to a dehydrator can be stabilized the neither more nor less.

[0009]

[Effect of the Invention] Therefore, according to this invention, the coating sludge inclusion supplied to the final-treatment sections, such as cancellation and incineration, as a processing object was made as for ** to the low lightweight thing in low water content, supply to the coating sludge inclusion to the final-treatment section could be advantageously performed in respect of equipment and cost, and when especially incineration processing was carried out, coating Myst could be removed from the exhaust air in a paint booth so that the incineration processing cost could be reduced.

[0010] Expected coating sludge content liquid can be dehydrated safely, without inviting the trouble of making the feed pump to a dehydrator racing, or flooding liquid and a coating sludge especially with things [that supply of the coating sludge content liquid to a dehydrator may be stabilized without requiring complicated control] according to claim 2 carelessly from a sludge depot, if it is made like.

[0011]

[Example] A paint facility has the coating Myst stripper which removes and discharges coating Myst out of the exhaust air in the paint booth 1 for painting moving a coated object as shown in drawing 1 , and its paint booth 1 including coating Myst.

[0012] Said coating Myst stripper establishes a washing means, an exhaust air processing means, a separation means, a liquid supply means, and a dehydration means, and is constituted.

[0013] Said washing means is a means to discharge to the exhaust air space 2 in which the exhaust air in said paint booth 1 and the liquid for the Myst prehension which makes water a subject were contacted so that coating Myst under the exhaust air might be caught by the liquid for the Myst prehension, and it was installed down the paint booth 1. The scrubber 3 discharged to the exhaust air space 2 while making the liquid for the Myst prehension drop-ize (waterdrop-izing) and making exhaust air specifically contact, The liquid feeding chute 4 formed in the crosswise both ends of the paint booth 1 with the posture which met in the coated object migration direction, The liquid for the Myst prehension with which it became said scrubber 3 from the flowing-down plate 5 which carries out flowing-down guidance, and was full of it from the liquid feeding chute 4 the liquid for the Myst prehension with which it overflowed from the liquid feeding chute 4 Without adhering to the top face of the flowing-down plate 5, coating Myst which became wrap film-like, and flowed down the top face of the flowing-down plate 5, consequently has descended is constituted so that it may be caught by film-like the liquid for flowing-down Myst prehension. Therefore, the coating Myst prehension liquid which contained the exhaust air and coating Myst which were removed in coating Myst by existence of the above-mentioned washing means will be discharged by the exhaust air space 2 from the inside of the paint booth 1.

[0014] Said exhaust air processing means forms the ventilating fan 6 for discharging the processing exhaust air in said exhaust air space 2 outside, and the eliminator 7 which removes a part for the liquid under exhaust air, and is constituted.

[0015] The 1st separation tub 8 for said separation means receiving the liquid for coating Myst prehension of the coating Myst content discharged through a washing means from said paint booth 1, and carrying out floatation of the coating sludge in liquid, The 1st drawing means which takes out surfacing coating sludge content liquid from the 1st separation tub 8, The 2nd drawing means which takes out a surfacing coating sludge is established, and it consists of the 2nd separation tub 9 and its 2nd separation tub 9 for receiving the drawing liquid from the 1st drawing means, surfacing the coating sludge in liquid, and dissociating.

[0016] In the liquid supply way 10 of the flowing-down type to said 1st separation tub 8, it has the alkali-chemicals impregnation section 11 which pours the alkali chemicals for adjusting the liquid for coating Myst prehension to alkalinity into the liquid for coating Myst prehension, and the flocculant impregnation section 12 which pours flocculants, such as a macromolecule polymer for making coating Myst condense in the shape of flocks, and promoting sludging, into the liquid for coating Myst prehension.

[0017] Said 1st drawing means forms the accumulation pit 13 for making the coating sludge to which it rose to surface in the 1st separation tub 8 flow with the upper liquid, and collecting them. The surfacing coating sludge in the accumulation pit 13 by giving the revolution force to the influent to an accumulation pit by discharging liquid through the sludge drawing way 14 from the pars basilaris ossis occipitalis of the accumulation pit 13, and generating a vortex with liquid The sludge pump 16 which takes out outside the accumulation pit 13 and is supplied to the 2nd separation tub 9 through the sludge supply way 15 is formed, and it is constituted. 17 is a bulb for suspending coating sludge content liquid supply.

[0018] It is divided into tank part 9A for sludges, and tank part 9B for liquid, tank part 9A for sludges and tank part 9B for liquid are opened for free passage in the lower part so that the coating sludge in tank part 9A for sludges may not shift to tank part 9B for liquid, and said 2nd separation tub 9 has overflow type exhaust port 9a for carrying out overflow discharge of the liquid from tank part 9 for liquid B, and preventing a rise the above of an oil level.

[0019] the coating sludge to which, as for said 2nd drawing means, it rose to surface in tank part 9A for sludges among the 2nd separation tubs 9 -- the upper liquid -- ** -- it is alike and rakes out to the sludge fall exhaust passage 18 -- it rakes out, and equipment 19 is formed and it is constituted.

[0020] Said liquid supply means establishes a 1st liquid supply means to supply the liquid feeding chute 4 of said washing means by using as the liquid for coating Myst prehension the liquid separated by the

1st separation tub 8, and a liquid return means to return the liquid separated by the 2nd separation tub 9 to the 1st separation tub 8, and is constituted.

[0021] Said 1st liquid supply means forms the circulating pump 21 for liquid supply in the liquid supply way 20 to which liquid is taken out from the pars basilaris ossis occipitalis of the 1st separation tub 8, and it shows the liquid feeding chute 4, and is constituted, and the surfacing agent feed zone 22 which supplies the surfacing agent (killer agent) which surfaces coating Myst to liquid is formed in the liquid supply way 20. 23 is a bulb for suspending liquid supply.

[0022] Said liquid return means forms the bottom way 24 of the mainstream down which takes out the supernatant liquid in the 2nd separation tub 9 from a pars basilaris ossis occipitalis, and it is made to flow in the 1st separation tub 8, and the overflow flowing-down way 25 which makes the bottom way 24 of the mainstream carry out flowing-down unification of the liquid from overflow type exhaust port 9a of the 2nd separation tub 9, and is constituted.

[0023] Said dehydration means is a means to divide into a part for solid content and liquid the coating sludge content liquid taken out from the 2nd separation tub 9 by said 2nd drawing means. The sludge depot 26 which receives and stores the coating sludge content liquid from the sludge fall exhaust passage 18, The liquid supply means which carries out flowing-down supply of the supernatant liquid from the inside of said 2nd separation tub 9 at the sludge depot 26, The drawing means which takes out coating sludge content liquid, and the dehydrator 27 which divides into a part for solid content and liquid the coating sludge content liquid taken out by that cause are formed, and it consists of sludge depots 26.

[0024] Said sludge depot 26 is having the interior divided by sludge depot section 26A which receives the coating sludge content liquid from the 2nd separation tub 9, and liquid depot section 26B. And overflow opening 26F which make the bottom way 24 of said mainstream carry out flowing-down unification are formed through bottom way of outflow 26X by making liquid discharge by overflow from free passage opening 26J which make partes basilaris ossis occipitalis with the inside of sludge depot section 26A and liquid depot section 26B open for free passage, and the inside of liquid depot section 26B. Therefore, when sludge depot section 26A and liquid depot section 26B are open for free passage through free passage opening 26J at the partes basilaris ossis occipitalis Where shift into liquid depot section 26B of the surfacing coating sludge in sludge depot section 26A is prevented, the oil level in sludge depot section 26A and the oil level in liquid depot section 26B are maintained by the same level. When only liquid discharges through overflow opening 26F, while the oil level in the sludge depot 26, i.e., sludge depot section 26A, and liquid depot section 26B is maintained below at the level which is overflow opening 26F Concentration of the coating sludge in liquid is made high.

[0025] Said liquid supply means consists of branching from the bottom way 24 of the mainstream of said liquid return means, establishing the flowing-down supply way 28 which carries out flowing-down supply of the liquid in liquid depot section 26B, and forming the bulbs 29 and 30 for adjusting the splitting ratio of the liquid to them to the flowing-down supply way 28 and the bottom way 24 of the mainstream.

[0026] Said drawing means infixes the feed pump 32 for migration in the sludge content liquid supply way 31 for supplying coating sludge content liquid to a dehydrator 27, and consists of sludge depot section 26A, and the wash water supply way 33 for supplying the wash water for washing it to a dehydrator 27 to the sludge content liquid supply way 31 is connected. That is, by operating a feed pump 32, where supply of wash water is suspended, coating sludge content liquid is supplied to a dehydrator 27, and dehydration processing is carried out, and by stopping a feed pump 32 and supplying wash water to a dehydrator 27, it is constituted so that a dehydrator 27 may be washed and the dehydration engine performance may be maintained. 34 is a bulb for the supply interruption of coating sludge content liquid, and 35 is a bulb for wash water supply interruption.

[0027] Said dehydrator 27 is the thing of a centrifugal type, it has sludge exhaust port 27a which carries out fall supply of the separated solid content at the sludge container 36 of a portable mold, and effluent opening 27b which discharges a part for liquid, and the flowing-down return way 37 which returns an effluent to the 1st separation tub 8 at a flowing-down type is connected to effluent opening 27b.

[0028] Accession department 26a in which said sludge depot section 26A receives the coating sludge content liquid from the 2nd separation tub 9, By being divided into reservoir section 26b which stores a sludge, and using the partition 26c as the filtration screen which prevents passage of the thing of the magnitude beyond a setup Only the following [the magnitude which was suitable for supply to a dehydrator 27 among the coating sludges in accession department 26a] are made to shift in reservoir section 26b, and the shift to reservoir section 26b of the coating sludge and dust which became hard greatly superfluously is prevented. The agitator 38 for preventing that a coating sludge joins mutually together and serves as a big lump is installed in reservoir section 26b. That is, migration of the coating sludge content liquid by the feed pump 32 of a drawing means is made to perform, without inviting failures, such as a pump trouble.

[0029] When an example of the concrete specification of said coating Myst stripper is shown, the amount of coating Myst prehension in a washing means 0.3 kg/min, The floatation effectiveness in the 2nd separation tub 9 40% for the floatation effectiveness in the 1st separation tub 8 80%, The sludge amount of supply of 20m³ / min, and the 1st drawing means for the amount of supply of the 1st liquid supply means 1000l. / min, The liquid amount of supply to the sludge depot 26 according the amount of flowing down in the bottom way 24 of the mainstream to 980 l/min and the flowing-down supply way 28 20 l/min, Supposing it sets the amount of liquid return from a dehydrator 27 to 10 l/min and the 1st separation tub 8 as 10 l/min for the amount of supply to 10 l/min and a dehydrator 27, respectively, the amount of effluents by the overflow from the sludge depot 26 The coating Myst concentration within the 1st separation tub 8, the coating Myst concentration of the liquid supplied to a washing means from the 1st separation tub 8, The coating Myst concentration after washing, the coating Myst concentration of the liquid supplied to the 2nd separation tub 9, The coating Myst concentration of the liquid returned to the 1st separation tub 8 is set to 45 ppm, 28 ppm, 43 ppm, 375 ppm, 30000 ppm, and 76 ppm from the coating Myst concentration, the 2nd separation tub 9, and the sludge depot 26 of the liquid supplied to a dehydrator 27, respectively.

[0030] [Other Example(s)] -- although the account example of a top showed the thing of a centrifugal type as a dehydrator 27, the formats of a dehydrator 27 may be those other than a centrifugal type.

[0031] Although the above-mentioned example showed what has the sludge depot 26 as a dehydration means, from the 2nd separation tub 9, a dehydration means may supply coating sludge content liquid directly to a dehydrator 27, and may dehydrate to it.

[0032] In addition, although a sign is described in order to make contrast with a drawing convenient at the term of a claim, this invention is not limited to the configuration of an accompanying drawing by this entry.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] Outline block diagram

[Description of Notations]

1 Paint Booth

8 1st Separation Tub

9 2nd Separation Tub

26A Sludge depot section

26B Liquid depot section

26 Sludge Depot

26J Free passage opening

26F Overflow opening

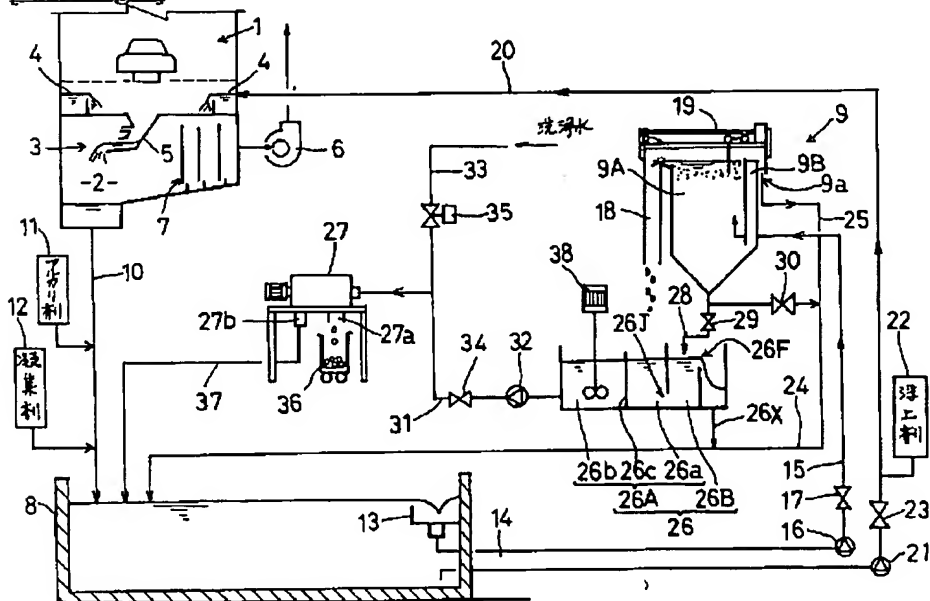
27 Dehydrator

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- 3.In the drawings, any words are not translated.

[Drawing 1]



[Translation done.]